

**REMARKS**

The Examiner objected to claims 2, 3, 21 and 22 as being dependent upon a rejected base claim, but indicated that claims 2, 3, 21 and 22 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant gratefully acknowledges the Examiner's indication of allowable subject matter.

The Examiner rejected claims 1, 4-20 and 23-34 under 35 U.S.C. §102(c) as allegedly being anticipated by Li *et al.* (US 2005/0058930 A1).

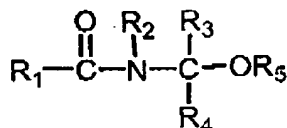
The Examiner rejected claims 1, 4-9, 13, 15, 16, 18-20, 23-27, and 29-34 as allegedly being unpatentable under the judicially created obviousness-type double patenting doctrine over claims 1, 3-8, 11-14, and 17-19 of copending Application No. 10/663,553.

Applicant respectfully traverse the §102(c) and double patenting rejections with the following arguments.

**35 U.S.C. §102(e)**

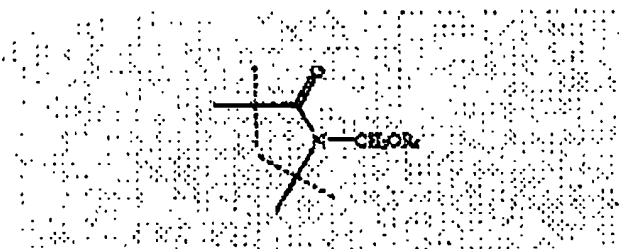
The Examiner rejected claims 1, 4-20 and 23-34 under 35 U.S.C. §102(e) as allegedly being anticipated by Li *et al.* (US 2005/0058930 A1).

Applicants respectfully contend that Li does not anticipate claims 1 and 16, because Li does not teach each and every feature of claims 1 and 16. For example, Li does not teach the feature of: "an additive having the structure:



wherein R<sub>1</sub> represents one of hydrogen, an alkyl group, an aryl group, a semi- or perfluorinated alkyl group, a semi- or perfluorinated aryl group, an alkaryl group, a semi- or perfluorinated alkaryl group, an aralkyl group, and a semi- or perfluorinated aralkyl group, wherein R<sub>2</sub> represents one of hydrogen and a straight or branched alkyl group with 1 to 50 carbons, wherein R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> independently represent one of hydrogen and a straight or branched alkyl group with 1 to 6 carbons; ... wherein the resist polymer is adapted to chemically react with the additive in the presence of the acid in a **non-crosslinking chemistry** to generate a product that is insoluble in the developer solution" (emphasis added).

The Examiner argues that "Li's claim 8 teaches that his negative resist composition comprises a crosslinking agent of the following structure:



where  $R_4$  represents hydrogen, or a linear branched alkyl group, or an aromatic group. Based on this teaching, one of ordinary skill in the art would immediately envisage  $R_4$  of the above structure to be H or a linear or branched alkyl group. Thus, Li's crosslinking agent shown above teaches present structure for the additive of claim 1."

In response, Applicants respectfully contend that the Examiner's argument, based on what one of ordinary skill in the art would envisage, cannot be used to reject a claim under 35 U.S.C. §102(e). Anticipation of a claim under 35 U.S.C. §102(e) requires a showing that the prior art reference either explicitly or inherently teaches the claimed feature, and Li does not explicitly or inherently teach the additive of claims 1 and 16. What one of ordinary skill in the art would envisage is not legally acceptable for rejecting a claim under U.S.C. §102(e).

In addition, Applicants respectfully contend that the Examiner's argument is not persuasive, because Li's claim 8 recites a "crosslinking agent [that] comprises two or more of the following moieties", which is not claimed and does not exist in any of the illustrative additives (I) – (LII) appearing on pages 10-17 of the specification of the present patent application.

Moreover, the additive of claims 1 and 16 does not read on the cross linking agent of Li's claim 8, at least because the additive of claims 1 and 16 is not a cross linking agent and does not participate in a cross linking chemistry, and because the crosslinking agent of claim 8 of App.

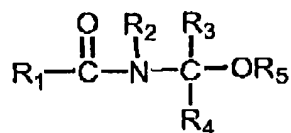
'553 does not participate in a non-crosslinking chemistry as required by claims 1 and 16. Indeed, the present invention is directed to a non-crosslinking chemistry. See title ("Negative Photoresist Composition Involving **Non-Crosslinking Chemistry**" (emphasis added)). See page 7, lines 11-12 ("The negative photoresist compositions of the present invention are generally characterized by a **non-crosslinking chemistry ...**") (emphasis added). See page 9, lines 17-19 ("The generated acid facilitates a **non-crosslinking chemical reaction** between the resist polymer (2) and the additive (1) to generate a reaction product that is insoluble in the developer solution") (emphasis added).

Based on the preceding arguments, Applicants respectfully maintain that Li does not anticipate claims 1 and 16, and that claims 1 and 16 are in condition for allowance. Since claims 4-15 and 31-32 depend from claim 1, Applicants contend that claims 4-15 and 31-32 are likewise in condition for allowance. Since claims 17-20, 23-30, and 33-34 depend from claim 16, Applicants contend that claims 17-20, 23-30, and 33-34 are likewise in condition for allowance.

**Double Patenting**

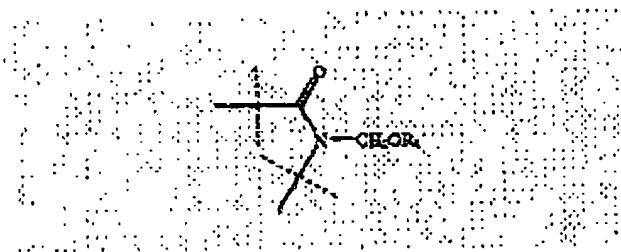
The Examiner rejected claims 1, 4-9, 13, 15, 16, 18-20, 23-27, and 29-34 as allegedly being unpatentable under the judicially created obviousness-type double patenting doctrine over claims 1, 3-8, 11-14, and 17-19 of copending Application No. 10/663,553 ("App. '553").

Applicants respectfully contend that claims 1 and 16 are not obvious over claims 1, 3-8, 11-14, and 17-19 of App. '553, because App. '553 does not teach each and every feature of claims 1 and 16. For example, App. '553 does not teach the feature of: "an additive having the structure:



wherein R<sub>1</sub> represents one of hydrogen, an alkyl group, an aryl group, a semi- or perfluorinated alkyl group, a semi- or perfluorinated aryl group, an alkaryl group, a semi- or perfluorinated alkaryl group, an aralkyl group, and a semi- or perfluorinated aralkyl group, wherein R<sub>2</sub> represents one of hydrogen and a straight or branched alkyl group with 1 to 50 carbons, wherein R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> independently represent one of hydrogen and a straight or branched alkyl group with 1 to 6 carbons; ... wherein the resist polymer is adapted to chemically react with the additive in the presence of the acid in a **non-crosslinking chemistry** to generate a product that is insoluble in the developer solution" (emphasis added).

The Examiner argues: "Claim 8 of App. '553 teaches that the negative resist composition comprises a crosslinking agent of the following structure:



where  $R_4$  represents hydrogen, or a linear branched alkyl group, or an aromatic group. Based on this teaching, it would have been obvious to one of ordinary skill in the art to have  $R_4$  of the above structure to be H or a linear or branched alkyl group. Thus, the teaching of App. '553 renders obvious present structures for the additive if claim 1. Therefore, App. '553 renders obvious present inventions of claims 1 and 4-8."

In response, Applicants respectfully contend that the Examiner's argument is not persuasive, because Li's claim 8 recites a "crosslinking agent [that] comprises two or more of the following moieties", which is not claimed in claims 1 and 16 and does not exist in any of the illustrative additives (I) – (LIII) appearing on pages 10-17 of the specification of the present patent application.

Moreover, Applicants respectfully contend that it would not be obvious to one of ordinary skill in the art to use the crosslinking agent of claim 8 of App. '553 as the additive of claims 1 and 16, at least because the additive of claims 1 and 16 is not a cross linking agent and does not participate in a cross linking chemistry, and because the crosslinking agent of claim 8 of App. '553 does not

participate in a non-crosslinking chemistry as required by claims 1 and 16. Indeed, the present invention is directed to a non-crosslinking chemistry. See title ("Negative Photoresist Composition Involving **Non-Crosslinking Chemistry**") (emphasis added). See page 7, lines 11-12 ("The negative photoresist compositions of the present invention are generally characterized by a **non-crosslinking chemistry ...**") (emphasis added). See page 9, lines 17-19 ("The generated acid facilitates a **non-crosslinking chemical reaction** between the resist polymer (2) and the additive (1) to generate a reaction product that is insoluble in the developer solution") (emphasis added).

Based on the preceding arguments, Applicants respectfully maintain that claims 1 and 16 are not over claims 1, 3-8, 11-14, and 17-19 of App. '553. Since claims 4-9, 13, and 15 depend from claim 1, Applicants contend that claims 4-9, 13, and 15 are likewise not obvious over claims 1, 3-8, 11-14, and 17-19 of App. '553. Since -20, 23-27, and 29-34 depend from claim 16, Applicants contend that claims -20, 23-27, and 29-34 are likewise not obvious over claims 1, 3-8, 11-14, and 17-19 of App. '553.

Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1, 4-9, 13, 15, 16, 18-20, 23-27, and 29-34 under the judicially created obviousness-type double patenting doctrine over claims 1, 3-8, 11-14, and 17-19 of App. '553.

**CONCLUSION**

Based on the preceding arguments, Applicants respectfully believes that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account No. 09-0458.

Date: 07/06/2005

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